

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 15, 2012

TO: Internal File

THRU: April Abate, Lead/Hydrologist *aaa 5/15/2012*

FROM: James Owen, Engineer *joe*

RE: Northwater Mitigation Plan, Canyon Fuel Company, LLC, Sufco Mine, C/041/0002, Task #4079

SUMMARY:

On April 13, 2012 the Utah Division of Oil Gas & Mining received an application for an amendment to the Mining & Reclamation Plan (MRP) of Canyon Fuel Company's (CFC) Sufco Mine. The application seeks approval of "the final mitigation" for the Northwater area which was affected by longwall mining in 2005 and 2006. The plan addresses the loss of water to two troughs that are used by cattlemen to water cows in the area for approximately one month every other year. Sufco feels that replacement of water to these troughs is the only mitigation required as no downstream water rights have been affected by the loss of surface water in the area

This memo addresses the application's compliance with the engineering (R645-301-500) and bonding (R645-301-800) sections of the Utah Coal Mining Rules.

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TECHNICAL ANALYSIS:

OEPRATION PLAN

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

Analysis:

In the summer of 2009 Sufco installed a submersible solar pump in the perennial flowing section of the East Fork of Box Canyon that would deliver water back to the sump at Pines 105. This system would allow the Emery County Stock Growers Association (ECSGA), who has the grazing permit in the area to install their solar pump and pump water to their troughs on the canyon rim as they had done prior to the undermining of the area. As part of this project Sufco also installed two additional trough locations that allow forage in the area to be better utilized. One of these sets of troughs is located on the canyon rim directly above Sufco's pump. The other location to the east utilizes the pump to fill them as well as the troughs currently located above Pines 105.

The configuration of the system is as follows:

- Solar panels on the canyon rim power a submersible solar pump that is placed in the stream.
- A pipeline runs from the pump to set of two 750 gallon troughs on the canyon rim.
- A float system closes off a valve to these troughs once they are full.

This pushes water into a pipeline that runs back into the bottom of the canyon to the sump in the fenced off area surrounding Pines 105. Water fills the sump and overflows as long as the pump in the stream is running. A new pipeline was installed that runs from this sump to the existing troughs at Pines 105 and the far-east troughs.

The ECSGA pump and panels are used to fill these two sets of troughs. When the troughs above Pines 105 are full a float system shuts off a valve allowing water to be pumped to the last set of troughs to the east. This system was installed in 2009 but not utilized until the fall of 2011 due to the allotment not being grazed as a result of vegetation manipulations that the Forest Service conducted in the area.

In the fall of 2011, ECSGA was allowed to graze the area as they moved their cattle off the mountain for the year. In anticipation of this Sufco installed the in stream pump and restored

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water to the sump at Pines 105. However, ECSGA never installed their pump to complete the system. Inquires with ECSGA found that installation of the surface pump at Pines 105 was difficult due to the size and weight of the pump.

Sufco feels that the only mitigation required from the loss of surface water in the Northwater area are to the two troughs on the canyon rim above the Pines 105 spring and to the Joe's Mill Pond area for the following reasons: Water at Pines 310 Upper provides sufficient water for wildlife in the area of the Pines 310 and 311 seeps, this is also supplemented by other small seeps in the canyons around this area; Vegetation in the canyon bottom throughout the area seems unchanged since undermining occurred; Downstream water rights have not been affected and the Division has concluded that no material damage has occurred; Land use has remained unchanged since undermining occurred, meaning that wildlife and recreation still occur in the area and with this plan livestock grazing is not only maintained but enhanced.

The final mitigation plan uses the pump, solar panels, and some of the pipeline that Sufco installed in 2009 to deliver water to the two troughs of the rim of the canyon and then through a pipeline on to a trough that will be located at Joe's Mill Pond. A float and valve system will be installed to fill the troughs on the canyon rim prior to water being pumped to Joe's Mill. Water will no longer be delivered to the sump at Pines 105; instead Sufco will relocate the ECSGA pump and solar panels to Trough location 1. The pump will provide water to the troughs currently in place above Pines 105 and the far-east troughs Sufco installed in 2009.

A new water line will be placed on the surface to connect trough location 1 to the troughs above Pines 105. This system will only be installed when necessary for watering of livestock. The 4 trough locations will disperse livestock throughout the area allowing for better utilization of feed. Sufco will install all required equipment to pump water from trough location 1 using the ECSGA panels and pump, and protect this equipment from damage from livestock. This can include the following: a new pole and fencing for solar panels, cement pad to mount pump on, fencing to protect pump and plumbing from livestock disturbance. ECSGA will still need to install their pump and panels at the new location.

The application states that each year during Sufco's mine life that the system will be used; Sufco will place the pump in the stream and connect the solar panels to run this pump. At the end of each season of use Sufco will remove the in stream pump and panels.

Sufco will provide and maintain for life of mining the following:

- Solar pump in stream
- Solar panels to power pump in stream
- Water lines between 4 trough locations

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- Water troughs at the 3 locations (those installed by Sufco at rim of the canyon, Joes Mill Pond and the far-east location)

Sufco states that upon completion of all mining activities Sufco will provide and ensure the following:

- New in stream solar pump and panels to Emery County Stock Growers Association
- Troughs and pipeline are in good working order

At this time installation and maintenance of the system will be the sole responsibility of the Emery County Stock Growers Association.

Findings:

Contents and information provided are not sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules. The following deficiency was identified:

R645-301.521.180-190. The Division considers the pumping system, in its entirety, an operational support facility which will be permitted under the Sufco permit. As with other support facilities, in addition to the narrative description, the Division requires plans, design drawings, cross sections, etc. for the facility.

RECLAMATION PLAN

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

Analysis:

The application did not include commitments to reclaim system.

Findings:

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Contents and information provided are not sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules. The following deficiency was identified:

R645-301.542.100. The applicant must include a commitment to reclaim the operational facility, including piezometers, along with and according to the reclamation timetable approved in the reclamation plan sections of the MRP.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

The application did not include any bonding or reclamation cost estimation.

Findings:

Contents and information provided are not sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules. The following deficiencies were identified:

R645-301-830, 830.140-200. The applicant must update their bond calculations and spreadsheets to include the facility an item requiring demolition, removal and reclamation. The applicant must also demonstrate that the amount of bond currently posted is adequate to cover reclamation of the facility. For the time being, the system must be permitted as an operational facility that will be expected to be removed and reclaimed at the end of life of mine. Due to the fact that a specific bond amount will be dedicated to the facility's reclamation, the Division will not consider or require the costs associated with perpetual maintenance of the system. Adequate bonding for demolition, removal, and reclamation are all that are being required at this time.

R645-301-830, 830.140-200. The applicant must remove any language or references within the application that states that liability for the facility will be transferred to a third party at the end of Sufco's life of mine. For the time being, the system must be permitted as an operational facility that will be expected to be removed and reclaimed at the end of life of mine. The application may include language which leaves open the possibility that the final reclamation plan for the facility may be adjusted or that there may be a post-mining land use change.

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R645-301.731.750 -830.140-200. The Permittee must provide a commitment that an evaluation of the impacted Northwater area will be initiated no later than three years prior to the cessation of mining activity. The purpose of the evaluation will be to assess:

- 1) The hydrologic condition of the Northwater area (i.e. whether or not the pre-subsidence hydrology has been re-established).
- 2) Whether continued water replacement is necessary.
- 3) If water replacement is necessary, whether the proposed pumping system is the best technology currently available for long-term operation.
- 4) Any water rights associated with the operational system will be transferred over to the USFS (or current water right holder at that time).
- 5) The long-term liability of the chosen water replacement system (i.e. bonding).

RECOMMENDATIONS:

Approval is not recommended at this time.